



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

LIST OF MEMBERS

HONORARY MEMBERS

CRISP, FRANK, LL.B., B.A., F.R.M.S. 5 Landsdowne Road, Notting Hill, London, Eng.
PFLAUM, MAGNUS. 2334 S. 21st St., Philadelphia, Pa.

LIFE MEMBERS

BROWN, J. STANFORD, PH.B., A.M. P.O. Box 38, Far View, Black Hall, Conn.
CAPP, SETH BUNKER. P.O. Box 2054, Philadelphia, Pa.
DUNCANSON, PROF. HENRY B., A.M. R.F.D. 3, Box 212, Seattle, Wash.
ELLIOTT, PROF. ARTHUR H. 52 E. 41st. St., New York City.
HATELY, JOHN C. Chicago Beach Hotel, Chicago, Ill.

MEMBERS

The figures denote the year of the member's election, except '78 which marks an original member. The TRANSACTIONS are not sent to members in arrears, and two years' arrearage forfeits membership. (See Article IV of By-Laws.)

MEMBERS ADMITTED SINCE THE LAST PUBLISHED LIST

BUCHHOLZ, J. T.	LINTON, EDWIN
CHALLIS, FRANK E.	McCAULEY, DAVID V.
CHEAVIN, WILLIAM S.	NOLAND, LOWELL E.
FAUST, E. C.	PLUNKETT, ORDA A.
HARTMAN, ERNEST	RYAN, RUTH
HARRIS, D. F.	TITUS, C. P.
JEWELL, MINA E.	YOUNG, PAUL A.
KAMM, MINNIE WATSON	ZIMMERMAN, NAOMI B.

LIST OF MEMBERS

ACKERT, JAMES EDWARD, PH.D., '11. Kas. State Agr. Col., Manhattan, Kans.
ADAMS, FREDERICK, C. E., '19. Apartado 560, Mexico, D.F., Mexico.
ALLEN, HARRISON SANBORN, M.A., '15. 442 Farmington Ave., Waterbury, Conn.
ALLEN, WM. RAY, M.A., '15. Dept. Zoology, Univ. of Kentucky, Lexington, Ky.
ALLEN, WYNFRED E., A.M., '04. Scripps Inst., La Jolla, Calif.
ANDERSON, EMMA N., '16. Station A, Lincoln, Nebraska.
ANDRAS, J. C., B.A., '12. 540 S. Main St., Manchester, Ill.
ARNOLD, L. P., O.D., '20. Vulcans Temple, Carlisle, Ark.
ARNOLD, WM. T., '17. 21 Park Rd., Wyomissing, Pa.
ASHLEY, FRANK M., M.E., '20. Tribune Building, New York City, N. Y.
ATCHISON, MRS. W. S., A.M., '16. 263 Walnut Ave., Elgin, Ill.
ATHERTON, PROF. L. G., A.B., M.S., '12. State Normal School, Madison, S. D.
ATWOOD, H. F., '78. 16 Seneca Parkway, Rochester, N. Y.
BALDWIN, HERBERT B., '13. 927 Broad St., Newark, N. J.
BARKER, FRANKLIN D., PH.D. '03. Univ. of Nebraska, Lincoln, Nebr.
BARRE, H. W., B.Sc., M.A., '12. Clemson College, S. C.
BAUSCH, EDWARD, '78. 179 N. St. Paul St., Rochester, N. Y.

- BAUSCH, WILLIAM, '88.....St. Paul St., Rochester, N. Y.
 BEAN, A.M., M.A., '15.....1501 Palm Ave., Fresno, Calif.
 BECK, WILLIAM A., M.Sc., '16.....Univ. of Dayton, Dayton, Ohio.
 BICKNELL, ANNA (MISS) B.S., '21.....1713 Lamont St., N.W., Washington, D. C.
 BIERBAUM, C. H., '21.....Mutual Life Bldg., Buffalo, N. Y.
 BIRGE, PROF. E. A., Sc.D., LL.D., '99.....772 Langdon St., Madison, Wis.
 BLACK, J. H. M.D., '12.....530 Wilson Bldg., Dallas, Texas.
 BOYDEN, ALAN ARTHUR, '21.....1421 Oakridge Ave., Madison, Wis.
 BOYER, C. S., A.M., '92.....6140 Columbia Ave., Philadelphia, Pa.
 BROWN, ALICE L., '19.....Kans. St. Ag. Col., Manhattan, Kans.
 BRUNN, CHARLES A., LL.B., '16.....314 Reliance Bldg., Kansas City, Mo.
 BRYANT, PROF. EARL R., A.M., '10.....Muskingum College, New Concord, O.
 BUCHHOLZ, PROF. JOHN T., Ph.D., '22 Dept. of Botany, Univ. of Arkansas, Fayetteville, Ark.
 BUFFALO SOCIETY OF NATURAL SCIENCES.....Library Building, Buffalo, N. Y.
 BULL, JAMES EDGAR, Esq., '92.....141 Broadway, New York City.
 BULLITT, PROF. J. B., M.A., M.D., '12.....Chapel Hill, N. C.
 BUSWELL, A. M., M.A., '16.....Univ. of Illinois, Urbana, Ill.
 CABALLERO, PROF. GUSTAV A., '16.....Fordham Univ., New York City.
 CARLSON, C. O., A.B., '13.....Doane College, Crete, Nebr.
 CARTER, PROF. CHARLES, '11.....Parsons College, Fairfield, Ia.
 CARTER, JOHN E., '86.....5356 Knox St., Germantown, Philadelphia, Pa.
 CHALLIS, FRANK E., '22.....252 Central Ave., Aurora, Ill.
 CHEAVIN, WILLIAM SQUIER, F.R.M.S., F.E.S. (Lond.), F.C.S. (Lond.), '22.....
Middlesex Hosp. Med. School, London, W. England.
 CHESTER, WAYLAND MORGAN, M.A., '15.....Colgate University, Hamilton, N. Y.
 CHICKERING, A. M., A.M., '16.....Albion, Michigan.
 CLARK, GEORGE EDW., M.D., '96...Sheppard & Enoch Pratt Hospital, Towson, Maryland.
 CLARK, HOWARD W., A.M., '12.....Fairport, Iowa.
 CLEVELAND, L. R., B.S., '21.....310 W. Monument St., Baltimore, Md.
 COBB, N. A., Ph.D., '14.....Falls Church, Va.
 COGHILL, PROF. GEORGE E., Ph.D., '11.....R.F.D. 9, Lawrence, Kans.
 COLTON, HAROLD S., Ph.D., '11.....Zoological Lab., Univ. of Pa., Philadelphia, Pa.
 CONE, ALBERT, '12.. Associate Editor, Lumber World Review, 608 So. Dearborn St., Chicago, Ill.
 CONGER, ALLEN C., M.A., '15.....527 Forest St., East Lansing, Mich.
 CONLON, JAMES J., Ph.D., '14.....717 Hyde St., San Francisco, Cal.
 CORNELL UNIV. LIBRARY (PROF. S. H. GAGE).....Ithaca, N. Y.
 CORT, W. W., Ph.D., '11...J. H. U. School of Hygiene, 310 W. Monument St., Baltimore, Md.
 COVEY, GEORGE W., '11.....2017 South 26th St., Lincoln, Nebr.
 DANHEIM, MISS BERTHA L., B.S., '21.....Blue Rapids, Kansas.
 DARBAKER, LEASURE KLINE, Ph.D., M.D., '11.....
7025 Hamilton Ave., Homewood Sta., Pittsburgh, Pa.
 DAVIS, PROF. H. S., Ph.D., '12.....Bureau of Fisheries, Washington, D. C.
 DAYTON, MISS EDNA B., M.D., '21.....1512 N. Gratz St., Philadelphia, Pa.
 DEERE, EMIL OLAF, A.M., S.M., '13.....Bethany College, Lindsborg, Kans.
 DEPEW, GANSON, '21.....167 Summer St., Buffalo, N. Y.
 DE PUY, PERCY LEROY, B. S., '19.....Federal Bldg., El Reno, Okla.
 DIAGO, DR. JOAQUIN, '21.....Aguila 72, Havana, Cuba.
 DISBROW, WILLIAM S., M.D., Ph.G., '01.....151 Orchard St., Newark, N. J.
 DODGE, CARROLL W., Ph.D., '14...Dept. Cryptogamic Botany, Harvard Univ., Cambridge, Mass.

- DOLBEY, EDWARD P., '06.....3613 Woodland Ave., Philadelphia, Pa.
 DOUBLEDAY, ARTHUR W., M.D., '16.....5 Marlborough St., Boston, Mass.
 DRESCHER, W. E., '87.....Care Bausch & Lomb Opt. Co., Rochester, N. Y.
 DUNCAN, PROF. F. N., PH.D., '16.....So. Methodist Univ., Dallas, Tex.
 EDMONDSON, CHARLES H., PH.D., '15.....College of Hawaii, Honolulu.
 EGGLESTON, H. R., M.A., '13.....Marietta College, Marietta, Ohio.
 EIGENMANN, PROF. C. H., '95.....630 Atwater Ave., Bloomington, Ind.
 ELLIOTT, FRANK R., M.A., '15.....324 Kinsey St., Richmond, Ind.
 ELLIS, PROF. M. M., PH.D., '12.....Dept. Physiol., University of Mo., Columbia, Mo.
 ELMORE, PROF. C. J., '19.....706 West St., Emporia, Kan.
 ELROD, PROF. MORTON J., M.A., M.S., '98.....University of Montana, Missoula, Mont.
 ENBURG, J. M., '20.....5207 Baltimore St., Philadelphia, Pa.
 ESSENBERG, MRS. CHRISTINE, M.S., '16.....Scripps Institute, La Jolla, Cal.
 ESTERLY, CALVIN O., '15.....Occidental College, Los Angeles, Cal.
 EYRE, JOHN W. H., M.D., M.S., F.R.M.S., '99..Guy's Hospital, London, S. E., England.
 FATTIG, PROF. P. W., B.S., M.S., '12.....207 Pine St., Farmville, Va.
 FAUST, ERNEST C., PH.D., '22.....Peking Union Medical College, Peking, China.
 FELLOWS, CHAS. S., F.R.M.S., '83.....107 Cham. of Comm., Minneapolis, Minn.
 FELLOWS, HARRIETTE L., '21.....220 S. Prairie Ave., Sioux Falls, South Dakota.
 FERNANDEZ, FR. MANUEL, B.S., '16.....San Juan de Latran College, Manilla, P. I.
 FINDLAY, MERLIN C., A.M., '15.....Park College, Parkville, Mo.
 FOOTE, J. S., M.D., '01.....Creighton Dental College, Omaha, Nebraska.
 FURNISS, H. W., M.D., PH.D., '05.....56 Brazos St., West Hartford, Conn.
 GABRIELE, H. J., '16.....2659 California St., San Francisco, Cal.
 GAGE, PROF. SIMON H., B.S., '82.....Stimson Hall, Ithaca, N. Y.
 GALLOWAY, PROF. T. W., A.M., PH.D., '01.....Penn Terminal Bldg., 370 Seventh Ave., New York, N. Y.
 GILBERT, E. M., PH.D., '19.....Biology Building, U. of Wis., Madison, Wis.
 GOLDSMITH, G. W., B.A., '13.....123 E. Washington, Colorado Springs, Colorado.
 GOWEN, FRANCIS H., '14.....R. D. 1, Box 14, Exeter, N.H.
 GRAFF, JOHN H., '19.....Research Dept., Brown Company, Berlin, N. H.
 GRAHAM, CHARLES W., M.E., '11.....1033 Mills Bldg., San Francisco, Cal.
 GRAHAM, JOHN YOUNG, PH.D., '14.....University, Alabama.
 GRAVELLE, P. O., '19.....114 Prospect St., South Orange, N. J.
 GRIFFIN, LAWRENCE, E., '13.....Reed College, Portland, Ore.
 GROSS, F. O., M.D., '19.....1816 Erie Ave., Philadelphia, Pa.
 GUBERLET, JOHN E., PH.D., '11.....A. & M. College, Stillwater, Okla.
 GUNNS, CECIL AGUILA, '21..Dept. Zoology, Kansas State Agr. College, Manhattan, Kansas.
 GUYER, MICHAEL F., PH.D., '11.....University of Wisconsin, Madison, Wisconsin.
 HAGELSTEIN, ROBERT, '16.....165 Cleveland Ave., Mineola, Nassau Co., N. Y.
 HAGUE, FLORENCE, A.M., PH.D., '16..Dept. Zoology, Oregon Agr. Coll., Corvallis, Oregon.
 HALL, F. GREGORY, B.A., '17.....Biology Building, Univ. of Wis., Madison, Wis.
 HALLINEN, J. E., B.S., '21.....Cooperton, Okla.
 HANCE, ROBERT T., B.A., '13.....Zool. Lab., N. Dakota Agr. College, North Dakota.
 HANKINSON, T. L., B.S., '03.....St. Normal School, Ypsilanti, Michigan.
 HANSEN, JAMES, '15.....St. Johns Univ., Collegeville, Minn.
 HARDY, EUGENE H.....1230 S. Keystone Ave., Indianapolis, Ind.
 HARMAN, MARY T., PH.D., '13.....Kansas State Agr. College, Manhattan, Kansas.
 HARTMAN, ERNEST, B.S., '22.....Kans. St. Agr. College, Manhattan, Kansas.
 HARRIS, DAVID FRASER, M.D., D.Sc., F.R.S.S., '22....Dalhousie University, Halifax, N. S.
 HAYDEN, H. E., A.M., '21.....Department of Biology, Univ. of Richmond, Va.

- HAYES, W. P., M.S., '19.....319 N. 18th St., Manhattan, Kans.
 HEALD, F. D., PH.D., '06.....Wash. State College, Pullman, Wash.
 HEATH, ROY FRANKLIN, M.Sc., '18.....P.O. Box 270, Billings, Montana.
 HENDERSON, WILLIAM, '11.....Mellon Inst., Univ. of Pittsburgh, Pittsburgh, Pa.
 HERRICK, CHESTER A., B.S., '21.....Kansas State Agri. College, Manhattan, Kansas.
 HICKMAN, J. R., A.B., '19.....Bristol, West Virginia.
 HILTON, WILLIAM A., PH.D., '15.....Claremont, Cal.
 HISAW, F. L., M.S., '19.....Kans. State Agr. College, Manhattan, Kans.
 HOLY CROSS COLLEGE, PROFESSOR OF BIOLOGY.....Worcester, Mass.
 HOPKINSON, D., M.D., '20.....1008 Third St., Milwaukee, Wis.
 HOSKINS, WM., '79.....49 6th St., LaGrange, Ill.
 HOTTES, C. F., PH.D., '20.....Nat. Hist. Bldg., Univ. of Ill., Urbana, Ill.
 HUBERT, H. E., B.S., '20.....3615 Melpomene St., New Orleans, La.
 HUDSON, D. V., B.S., '20.....Johns Hopkins Medical School, Baltimore, Md.
 IVES, FREDERIC E., '02.....1327 Spruce St., Philadelphia, Pa.
 JACKSON, F. S., M.D., '19.....Mc Gill University, Montreal, Canada.
 JACOT, A. P., A.B., '19.....Biology Dept., Shantung Univ., Tsinanfie, Shantung, China.
 JEFFS, PROF. R. E., '11.....624 N. Johnson St., Iowa City, Iowa.
 JEWELL, MINA E., PH.D., '22...Dept. Zoology, Kans. St. Agr. College, Manhattan, Kansas.
 JORDAN, PROF. H. E., '12.....34 University Place, Charlottesville, Va.
 JUDAY, CHANCEY, '00.....Biology Bldg., U. of Wis., Madison, Wis.
 JUDD, H. D., OPT.D., '19.....460 W. Philadelphia Ave., Detroit, Michigan.
 KAMAL, MOHAMMED, B.S., '21...Box 223, Kansas State Agr. College, Manhattan, Kansas.
 KAMM, MINNIE WATSON, PH.D., '22...263 Windermere Rd., Walkerville, Ontario, Canada.
 KINCAID, TREVOR, A.M., '12.....University of Washington, Seattle, Wash.
 KIRSCH, PROF. ALEXANDER M., M.G., '16.....Notre Dame (Univ.), Ind.
 KNIGHT, F. P. H., '11.....1015 Blondeau St., Keokuk, Iowa.
 KOFOID, CHARLES A., PH.D., '99...University of California, 2616 Etna St., Berkeley, Cal.
 KOSTIR, W. M., M.A., PH.D., '20.....Dept. Zoology, Ohio State Univ., Columbus, Ohio.
 KOTZ, A. L., M.D., '91.....302 High St., Easton, Pa.
 KRECKER, FREDERIC H., PH.D., '15.....Ohio State University, Columbus, Ohio.
 KUDO, R., PH.D., '20.....Dept. Zoology, Univ. of Ill., Urbana, Ill.
 LAMBERT, C. A., '12.....Bank of New South Wales, Warwick, Queensland, Australia.
 LARUE, GEORGE R., PH.D., '11.....University of Michigan, Ann Arbor, Michigan.
 LATHAM, MISS V. A., M.D., D.D.S., F.R.M.S., '88
1644 Morse Ave., Rogers Park, Chicago, Ill.
 LATIMER, HOMER B., PH.D., '11.....1226 So. 26th St., Lincoln, Nebr.
 LEWIS, IVEY FOREMAN, PH.D., '18.....University, Va.
 LEWIS, MRS. KATHERINE B., '89.....656 Seventh St., Buffalo, N. Y.
 LINTON, EDWIN, A.B., A.M. (WASH. JEFF) PH.D. (YALE) '22
1104 Milledge Road, Augusta, Ga.
 LITTERER, WM., A.M., M.D., '06.....Nashville, Tenn.
 LOFTON, ROBERT ELWOOD, A.B., '21.....Bureau of Standards, Washington, D.C.
 LOMB, ADOLPH, '92.....289 Westminster Road, Rochester, N. Y.
 LONGFELLOW, ROBERT CAPLES, M.S., M.D., '11.....1611 22nd St., Toledo, Ohio.
 LOWDEN, HUGH B., '16.....1312 York St., Denver, Colo.
 LOWREY, ELEANOR C., '19.....1826 D. St., Lincoln, Nebr.
 LYON, HOWARD N., M.D., '84.....828 N. Wheaton Ave., Wheaton, Ill.
 MACGILLIVRAY, ALEXANDER D., '12.....603 W. Michigan Avenue, Urbana, Ill.
 MACKAY, ALEXANDER H., B.A., B.Sc., LL.D., F.R.S. CANADA, '21
61 Queen Street, Dartmouth, Nova Scotia, Canada.

- MAGATH, T. B., M.S., Ph.D., M.D., '13..... Mayo Clinic, Rochester, Minn.
- MANCHEÉ, E. D., '19..... 200 Glen Cairn Ave., Toronto, Can.
- MANNHARDT, L. A., Ph.B., '21..... N. Y. University, Washington Square, New York, N. Y.
- MARR, GEORGE HENRY, M.E., '11..... 94 Silver St., Waterville, Maine.
- MARSHALL, COLLINS, M.D., '96..... 2507 Penn Ave., Washington, D. C.
- MARSHALL, RUTH, Ph.D., '07..... Rockford College, Rockford, Ill.
- MARSHALL, W. S., Ph.D., '12..... 139 E. Gilman St., Madison, Wis.
- MARTLAND, HARRISON S., A.B., M.D., '14..... 1138 Broad St., Newark, N. J.
- MATHER, E., M.D., Ph.D., '02..... 228 Gratiot Ave., Mt. Clemens, Mich.
- MAY, HENRY GUSTAV, Ph.D., '15
..... Agr. Exp. Sta., Rhode Island State College, Kingston, R. I.
- MAYWALD, FREDERICK J., '02..... 222 Grand Ave., Nutley, N. J.
- MCCAULEY, DAVID V., S.J., M.A., '22..... Fordham University, New York, N. Y.
- MCCOLLOCH, J. W., B.S., '19..... Kans. Agr. Exp. Sta., Manhattan, Kans.
- MCGREERY, GEO. L., '13..... 110 Nevada St., Carson City, Nev.
- MCCULLOCH, IRENE, Ph.D., '20.....
Dept. Biology, Sophie Newcomb Memorial College, Tulane Univ., New Orleans, La.
- MCEWAN, A., '15..... Fifth Ave., Guarantee Building, 522 Fifth Ave., New York, N. Y.
- McKAY, JOSEPH, '84..... 259 Eighth St., Troy, N. Y.
- McKEEVER, FRED L., F.R.M.S., '06..... P.O. Box 210, Penticton, B. C.
- McLAUGHLIN, ALVAH R., M.A., '15..... 108 S. 6th St., Columbia, Mo.
- McWILLIAMS, JOHN, '14..... Lock Box 91, Greenwich, Conn.
- MERCER, A. CLIFFORD, M.D., F.R.M.S., '82..... 324 Montgomery St., Syracuse, N. Y.
- MERCER, W. F., Ph.D., '99..... 200 E. State St., Athens, Ohio.
- METCALF, PROF. ZENO P., B.A., '12..... St. College Station, Raleigh, N. C.
- MILLER, CHARLES H., '11..... Med. School, Johns Hopkins U., Baltimore, Md.
- MILLER, JOHN A., Ph.D., F.R.M.S., '89..... 44 Lewis Block, Buffalo, N. Y.
- MOCKETT, J. H., Sr., '01..... 2302 Sumner St., Lincoln, Nebr.
- MOELLER, H., M.D., '07..... 341 West 57th St., New York, N. Y.
- MOODY, ROBERT P., M.D., '07..... Hearst Anat. Lab., U. of Cal., Berkeley, Cal.
- MORGAN, ANNA HAVEN, Ph.D., '16..... Mt. Holyoke Coll., So. Hadley, Mass.
- MUTTKOWSKI, R. A., Ph.D., '19..... Univ. of Idaho, Moscow, Idaho.
- MYERS, FRANK J., '13..... 15 S. Cornwall Place, Ventnor City, N. J.
- NOLAND, LOWELL E., M.A., '23..... Biology Building, Univ. of Wis., Madison, Wis.
- NORRIS, PROF. HARRY WALDO, '11..... Grinnell, Iowa.
- NORTON, CHARLES E., M.D., '11..... 118 Lisbon St., Lewiston, Me.
- OSBORN, PROF. HERBERT, M.S., '05..... Ohio State University, Columbus, Ohio.
- OTT, HARVEY N., A.M., '03..... Spencer Lens Co., Buffalo, N. Y.
- PATRICK, FRANK, Ph.D., '91..... 822 West 58th Street, Kansas City, Mo.
- PAYNE, MISS NELLIE M., B.S., '21..... Division of Entomology, University Farm, St. Paul, Minn.
- PEASE, FRED N., '87..... P.O. Box 503, Altoona, Pa.
- PENNOCK, EDWARD, '79..... 3609 Woodland Ave., Philadelphia, Pa.
- PETERSON, NIELS FREDERICK, '11..... Plainview, Nebr.
- PICKETT, F. L., Ph.D., '20..... Dept. Botany, State College of Washington, Pullman, Wash.
- PIATT, H. S., Ph.D., '19..... 561 W. 141st St., New York, N. Y.
- PITT, EDWARD, '11..... Brandhock, Gerrard's Cross, Bucks, England.
- PLOUGH, HAROLD H., A.M., Ph.D., '16..... Dept. Biology, Amherst Coll., Amherst, Mass.
- PLUNKETT, ORDA A., A.M., '22..... Dept. Botany, Univ. of Illinois, Urbana, Ill.
- POHL, JOHN C., JR., '17..... 204 N. 10th St., Easton, Pa.
- POOL, RAYMOND J., Ph.D., '15..... Station A, Lincoln, Nebr.

- POUND, ROSCOE, A.M., PH.D., '98.....Harvard Law School, Cambridge, Mass.
- POWERS, E. B., A.B., PH.D., '12.....Univ. of Tenn., College of Medicine, 718 Union Ave., Memphis, Tenn.
- PRAEGER, WM. E., M.S., '14.....421 Douglas Ave., Kalamazoo, Mich.
- PROCTER, WILLIAM, PH.D., '19.....Suite 423, 30 East 42nd St., New York, N. Y.
- PURDY, WILLIAM C., M.Sc., '16.....1311 Burdette Ave., Cincinnati, Ohio.
- PUTZ, ALFRED, '21.....5117 Locust St., Philadelphia, Pa.
- QUILLIAN, MARVIN C., A.M., '13.....Wesleyan Col., Macon, Ga.
- RANKIN, WALTER M., '13.....Princeton University, Princeton, N. J.
- RANSOM, BRAYTON H., '99.....U. S. Bureau of Animal Industry, Washington, D. C.
- REESE, PROF. ALBERT M., PH.D., (HOP.) '05.....W. Va. Univ., Morgantown, W. Va.
- RICHARDS, AUTE, PH.D., '12.....Dept. Zoology, Univ. of Oklahoma, Norman, Oklahoma.
- RILEY, C. F. CURTIS, M.S., '15.....Univ. of Manitoba, Winnipeg, Can.
- ROBERTS, E. WILLIS, '11.....65 Rose St., Battle Creek, Mich.
- ROBERTS, J. M., '11.....460 E. Ohio St., Chicago, Ill.
- ROBINSON, J. E., M.D., '15.....Box 405, Temple, Texas.
- ROE, G. C., A.B., '17.....113 R. Street, N.W., Washington, D. C.
- ROGERS, WALTER E., '11.....Lawrence College, Appleton, Wis.
- ROOT, FRANCIS METCALF, PH.D., '21.....310 W. Monument St., Baltimore, Md.
- ROSS, LUTHER SHERMAN, S.M., '11.....1308 27th St., Des Moines, Iowa.
- RUSH, R. C., M.D., '12.....Hudson, Ohio.
- RYAN, RUTH, A.B., '22.....Dept. Botany, Univ. of Illinois, Urbana, Ill.
- RYE, L. E., A.B., '20.....36 Lincoln Rd., Brockton, Mass.
- SCHEAR, E. W., E., '19.....107 West Park, Westerville, Ohio.
- SCOTT, HELEN M., A.M., '19.....1002 West St., Grinnell, Iowa.
- SCOTT, J. W., PH.D., '12.....Univ. of Wyo., Laramie, Wyo.
- SHEARER, J. B., '88.....809 Adams St., Bay City, Mich.
- SHEERAR, LEONARD F., '19.....158 W. State St., Wellsville, N. Y.
- SHELDON, JOHN LEWIS, PH.D., '15.....Morgantown, W. Va.
- SIMON, C. L., M.D., '20.....1734 Linden Ave., Baltimore, Md.
- SMITH, PROF. FRANK, A.M., '12.....1005 W. California Ave., Urbana, Ill.
- SMITH, GILBERT MORGAN, PH.D., '15.....113 Spooner St., Madison, Wis.
- SOAR, C. D., F.R.M.S., '07.....10 West Moreland Rd., Barnes, London, S.W. 13., Eng.
- SPAULDING, M. H., A.M., '13.....507 S. 8th Ave., Bozeman, Mont.
- SPERRY, ARTHUR B., B.S., '21.....Kansas State Agr. College, Manhattan, Kansas.
- SPURGEON, CHARLES H., A.M., '13.....Sheridan, Ind.
- STEWART, THOMAS S., M.D., '17.....18th and Spruce Sts., Philadelphia, Pa.
- STONE, G. E.Holly Drive, Los Angeles, Calif.
- STONE, GRACE A., A.M., '16.....Teacher's College, New York City.
- STUNKARD, HORACE W., PH.D., '13.....New York Univ., Univ. Heights, New York, N. Y.
- SUMMERS, PROF. H. E., '86.....Ames, Iowa.
- SWEZY, OLIVE, PH.D., '15.....East Hall, University of California, Berkeley, Cal.
- SWINGLE, PROF. LEROY D., '06.....Univ. of Utah, Salt Lake City, Utah.
- TAYLOR, SISTER MONICA, M.S., '21.....Notre Dame Training College, Glasgow, Scotland.
- TAYLOR, W. R., PH.D., '20.....2223 W. Tioga St., Philadelphia, Pa.
- TERRELL, TRUMAN C., M.D., '16.....1301 Eighth St., Fort Worth, Tex.
- THOMAS, ARTHUR H., '99.....12th and Walnut Sts., Philadelphia, Pa.
- TIMMINS, GEORGE, '96.....1410 E. Genesee St., Syracuse, N. Y.
- TINSLEY, RANDOLPH WORD, B.S., '15.....Georgetown, Texas.
- TITUS, C. P., '22.....32 New St., East Orange, New Jersey.
- TODD, JAMES C., B.A., M.D., '11.....Boulder, Colo.

- TUCKER, O. C., PH.G., '19.....898 S. Clarkson St., Denver, Colo.
 TUERS, R. V., '20.....Dept. Biology, N. Y. Univ., New York, N. Y.
 VAN CLEAVE, HARLEY J., PH.D., '11.....300 N. H. Bldg., Urbana, Ill.
 WAITE, FREDERICK C., PH.D., '11
 Medical Department, Western Reserve University, Cleveland, Ohio.
 WALKER, ELDA R., PH.D., '07.....University of Nebraska, Lincoln, Neb.
 WALKER, LEVA BELLE, '13.....Station A, Lincoln, Nebr.
 WALTON, A. S., '19.....Island Heights, New Jersey.
 WARBRICK, J. C., M.D., '12.....306 E. 43rd St., Chicago, Ill.
 WARD, HENRY B., A.M., PH.D., '87.....University of Illinois, Urbana, Ill.
 WARREN, S., A.B., '19.....28 Hawthorne Rd., Brookline, Mass.
 WATERWORTH, W. A., '15.....286 Lambton Quay, Wellington, N. Zealand.
 WELCH, PAUL S., PH.D., '11.....Univ. of Michigan, Ann Arbor, Mich.
 WELSH, MAJOR B. C., '14.....24 Upper Mountain Ave., Montclair, N. J.
 WESTON, WILLIAM H., JR. PH.D., '16
 Herbarium & Lab. of Cryptogamic Botany, Harvard Univ., Cambridge, Mass.
 WHEELER, E. J., PH.D., '00.....79 Chapel St., Albany, N. Y.
 WHELPLEY, H. M., M.D., PH.G., '09.....2342 Albion Pl., St. Louis, Mo.
 WHITING, WILLIAM J., '15.....Optical Shop, Navy Yard, Washington, D. C.
 WILLIAMSON, WM., F.R.S.E., '07.....79 Morningside Drive, Edinburg, Scotland.
 WILSON, CHARLES EARL, A.M., '15
 Dept. of Biology, Box 263, Wake Forest College, Wake Forest, N. Car.
 WILSON, RAY W., '18.....2051 Seneca, Buffalo, N. Y.
 WISMER, NETTIE M., '19.....Box 157, Erie, Kansas.
 WODSEDALEK, JERRY EDWARD, PH.D., '15.....Moscow, Idaho.
 WOLCOTT, ROBERT HENRY, A.M., M.D., '98.....Univ. of Nebraska, Lincoln, Neb.
 YOSHIDA, SADA0, '20.....Pathological Department, Osaka Medical College, Osaka, Japan.
 YOUNG, PAUL A., A.B. '22.....Dept. Botany, Univ. of Illinois, Urbana, Ill.
 ZEISS, CARL, c/o Dr. Boegehold, Dept. Biol.....Jena, Germany.
 ZIMMERMAN, NAOMI B., M.Sc., '22.....Kans. St. Agr. College, Manhattan, Kans.

SUBSCRIBERS

- ACADEMY OF NATURAL SCIENCES.....Logan Square, Philadelphia, Pa.
 AMERICAN MUSEUM OF NATURAL HISTORY...77th St. and Central Park, New York, N. Y.
 AMHERST COLLEGE LIBRARY.....Amherst, Mass.
 BABCOCK SCIENTIFIC LIBRARY.....Plainfield, N. J.
 BALL, MISS F. D.....Junior College, Grand Rapids, Mich.
 BIBLIOTHECA DE LA FACULTAD DE MEDICINE.....Montevideo, Uruguay
 BOSTON PUBLIC LIBRARY.....Boston, Mass.
 BOSTON SOCIETY OF NATURAL HISTORY.....Berkeley St., Boston, Mass.
 BROWN UNIVERSITY BIOLOGICAL LIBRARY.....Providence, R. I.
 BUREAU OF SCIENCE LIBRARY.....Manila, P. I.
 CARNEGIE FREE LIBRARY.....Allegheny, Pa.
 CARNEGIE LIBRARY.....Periodical Div., Schenley Park, Pittsburgh, Pa.
 CHEMISTS' CLUB LIBRARY, A. H. ELLIOTT.....52 East 41st St., New York, N. Y.
 CHICAGO UNIVERSITY LIBRARY.....Chicago, Ill.
 CLARKE, T. J.....417 Third Ave., Brooklyn, N. Y.
 CLEVELAND PUBLIC LIBRARY.....Cleveland, Ohio.
 COBURN LIBRARY OF COLORADO COLLEGE.....Colorado Springs, Colo.
 COLBY COLLEGE LIBRARY.....Waterville, Me.

COLLEGE OF PHYSICIANS LIBRARY.....	19 S. 22nd St., Philadelphia, Pa.
COLLEGE OF WILLIAM AND MARY LIBRARY.....	Williamsburg, Va.
COLORADO AGRICULTURAL COLLEGE LIBRARY.....	Fort Collins, Colo.
COLORADO STATE NORMAL LIBRARY.....	Greeley, Colo.
COLUMBIA UNIVERSITY LIBRARY.....	New York, N. Y.
CORNISH BROTHERS.....	39 New Street, Birmingham, Eng.
DE PAUW UNIV., ALFRED DICKEY BIOL. LIBRARY.....	Greencastle, Ind.
DETROIT PUBLIC LIBRARY.....	Detroit, Mich.
DOANE COLLEGE LIBRARY.....	Crete, Nebraska.
DRAKE UNIVERSITY LIBRARY.....	Des Moines, Iowa.
DULAU & Co.....	34-36 Margaret St., Cavendish Square, London, England.
EARLHAM COLLEGE LIBRARY.....	Earlham P.O., Richmond, Indiana.
FARGO COLLEGE LIBRARY.....	Fargo, N. D.
FORDHAM UNIVERSITY LIBRARY.....	Fordham, N. Y.
FRANKLIN & MARSHALL COLLEGE LIBRARY.....	Lancaster, Pa.
GEORGE WASHINGTON UNIVERSITY LIBRARY.....	Washington, D. C.
GROSVENOR LIBRARY.....	Buffalo, N. Y.
HAMAKER, J. J.....	Randolph-Macon Woman's College, Lynchburg, Va.
ILLINOIS NAT. HIST. SURVEY LIBRARY.....	Urbana, Ill.
ILLINOIS WOMAN'S COLLEGE LIBRARY.....	Jacksonville, Ill.
INDIANA STATE LIBRARY.....	Indianapolis, Ind.
INDIANA UNIVERSITY LIBRARY.....	Bloomington, Ind.
INSTITUTO OSWALDO CRUZ (CHEZ M. ALBANEL).....	11 Rue Sanbuiet, Paris, France.
IOWA STATE TEACHERS' COLLEGE LIBRARY.....	Cedar Falls, Iowa.
JAMES MILLIKIN UNIVERSITY LIBRARY.....	Decatur, Ill.
JOHN CRERAR LIBRARY.....	Chicago, Ill.
JOHNS HOPKINS UNIV. LIBRARY.....	Baltimore, Md.
KANSAS CITY PUBLIC LIBRARY.....	Kansas City, Mo.
KANSAS STATE AGR'L. COLLEGE LIBRARY.....	Manhattan, Kans.
KNOX COLLEGE LIBRARY.....	Galesburg, Ill.
LELAND STANFORD JR., UNIV. LIBRARY.....	Stanford, California.
LIBRARY, OFFICE OF SURGEON GENERAL, U. S. ARMY.....	Washington, D. C.
LOS ANGELES PUBLIC LIBRARY.....	Los Angeles, Cal.
MARTIN, MRS. NORMAN A.....	314 S. D. & T. Bldg., New Castle, Pa.
MASS. AGRICULTURAL COLLEGE LIBRARY.....	Amherst, Mass.
MCGILL UNIVERSITY LIBRARY.....	Montreal, Can.
MENDEL CLUB.....	Spring Hill College, Mobile, Ala.
MICHIGAN STATE NORMAL COLLEGE LIBRARY.....	Ypsilanti, Mich.
MILWAUKEE PUBLIC LIBRARY.....	Milwaukee, Wis.
MINNESOTA UNIV., FARM LIBRARY.....	St. Paul, Minn.
MISSOURI BOTANICAL GARDEN.....	St. Louis, Mo.
MISSOURI VALLEY COLLEGE LIBRARY.....	Marshall, Mo.
MONTANA STATE COLLEGE OF AGRICULTURE LIBRARY.....	Bozeman, Mont.
MOUNT HOLYOKE COLLEGE LIBRARY.....	South Hadley, Mass.
MUSEUM COMPARATIVE ZOOLOGY (HARVARD).....	Cambridge, Mass.
MUSEUM OF HISTORY, SCIENCE AND ART.....	Exposition Park, Los Angeles, Calif.
MUSKINGUM COLLEGE LIBRARY.....	New Concord, Ohio.
NATIONAL SOUTHEASTERN UNIVERSITY LIBRARY.....	Nanking, China.
NEW HAMPSHIRE STATE LIBRARY.....	Concord, N. H.
NEW YORK ACADEMY OF MEDICINE.....	17 W. Forty-third St., New York City.
NEW YORK MICROSCOPICAL SOCIETY.....	463 West St., New York City.

NEW YORK PUBLIC LIBRARY.....	476 Fifth Ave., New York City.
NEW YORK STATE LIBRARY.....	Serial Section, Albany, N. Y.
NORTHWESTERN COLLEGE LIBRARY.....	Naperville, Ill.
OBERLIN COLLEGE LIBRARY.....	Oberlin, Ohio.
OHIO STATE UNIVERSITY LIBRARY.....	Columbus, Ohio.
OHIO WESLEYAN UNIVERSITY LIBRARY.....	Delaware, Ohio.
OREGON AGRICULTURAL COLLEGE LIBRARY.....	Corvallis, Oregon.
OTTEROON, DR. ANDREW.....	Box 1126, Fargo Clinic, Fargo, N. Dak.
PAMMEL, PROF. L. H.....	Department of Botany, Iowa State College, Ames, Iowa.
PEKING UNION MEDICAL COLLEGE LIBRARY.....	Peking, China
PRESIDE DELLA FACOLTA MEDICA.....	R. Università di Pavia, Pavia, Italy.
PRINCETON UNIVERSITY LIBRARY.....	Princeton, N. J.
PUGET SOUND BIOL. STATION LIBRARY.....	University of Washington, Seattle, Wash.
PURDUE UNIVERSITY LIBRARY.....	Lafayette, Ind.
QUEEN'S UNIVERSITY LIBRARY.....	Kingston, Ontario.
RICE INSTITUTE LIBRARY.....	Houston, Texas.
RUTGERS COLLEGE LIBRARY.....	New Brunswick, N. J.
SCRIPPS INSTITUTION LIBRARY.....	La Jolla, Cal.
SMITH COLLEGE LIBRARY.....	Northampton, Mass.
ST. MARY'S COLLEGE LIBRARY.....	St. Marys, Kansas.
TENNESSEE AGR. EXPERIMENT STATION.....	Knoxville, Tenn.
TEXAS CHRISTIAN UNIVERSITY LIBRARY.....	Fort Worth, Tex.
TRINITY COLLEGE LIBRARY.....	Durham, N. C.
TRINITY COLLEGE LIBRARY.....	Washington, D. C.
U. S. DEPT. OF AGRICULTURE LIBRARY.....	Washington, D. C.
UNIVERSITY OF ARIZONA LIBRARY.....	Tucson, Ariz.
UNIVERSITY OF ARK. MEDICAL DEPT. LIBRARY.....	Little Rock, Ark.
UNIVERSITY OF CALIFORNIA LIBRARY.....	Berkeley, Calif.
UNIVERSITY OF IOWA LIBRARY.....	Iowa City, Iowa.
UNIVERSITY OF KANSAS LIBRARY.....	Lawrence, Kans.
UNIVERSITY OF MICHIGAN LIBRARY.....	Ann Arbor, Mich.
UNIVERSITY OF MINNESOTA LIBRARY.....	Minneapolis, Minn.
UNIVERSITY OF MISSOURI LIBRARY.....	Columbia, Mo.
UNIVERSITY OF MONTANA LIBRARY.....	Missoula, Mont.
UNIVERSITY OF NEBRASKA LIBRARY.....	Lincoln, Nebr.
UNIVERSITY OF OKLAHOMA LIBRARY.....	Norman, Okla.
UNIVERSITY OF OREGON LIBRARY.....	Eugene, Oregon.
UNIVERSITY OF PENNSYLVANIA LIBRARY.....	Philadelphia, Pa.
UNIVERSITY OF SOUTHERN CALIFORNIA LIBRARY.....	Los Angeles, Cal.
UNIVERSITY OF TEXAS LIBRARY.....	Austin, Texas.
UNIVERSITY OF TORONTO LIBRARY.....	Toronto, Canada.
UNIVERSITY OF UTAH LIBRARY.....	Salt Lake City, Utah.
UNIVERSITY OF VIRGINIA LIBRARY.....	Charlottesville, Virginia.
UNIVERSITY OF WASHINGTON LIBRARY.....	Seattle, Wash.
UNIVERSITY OF WISCONSIN LIBRARY.....	Madison, Wis.
UNIVERSITY OF WYOMING LIBRARY.....	Laramie, Wyo.
VASSAR COLLEGE LIBRARY.....	Poughkeepsie, N. Y.
WASHINGTON AND LEE BIOLOGICAL DEPT. LIBRARY.....	Lexington, Va.
WASHINGTON STATE COLLEGE LIBRARY.....	Pullman, Wash.
WESTERN COLLEGE FOR WOMEN LIBRARY.....	Oxford, Ohio.
YALE COLLEGE LIBRARY.....	New Haven, Conn.

CLASSIFIED ADS

LIVING AMOEBA

In addition to the widely used biological types, we specialize in important southern species not obtainable elsewhere.

Twelve months service on living material such as giant bullfrogs, alligators, turtles, crayfish, etc.

Write for information and prices.

All Material Guaranteed

SOUTHERN BIOLOGICAL SUPPLY COMPANY, Inc.

Natural History Building

New Orleans, La.

Established 1883 Without Intermission 1916

A. A. SPHUNG

The Frog and Turtle Man

Live Frogs, Turtles, Crayfish, Clams, Earthworms. Also preserved materials shipped to all parts of the world.

*Write for Price List
Lists Free*

NORTH JUDSON, INDIANA

Powers & Powers HIGH GRADE Microscopic Slides AND Living Micro-Organisms

Living Amaba Proteus and Living Fresh Water Hydra.—We were the first in America to develop the rearing and shipping of these organisms to all parts of the continent. We ship to every State in the Union and even as far as Nova Scotia. Living delivery always guaranteed within the months of the school year. We have a private plant of our own especially adapted to these and other micro-organisms.

Microscopic Slides.—We have a growing list of high grade preparations for the microscope, chiefly in zoology. We endeavor to produce slides of unusual excellence. Many are quite unprocurable elsewhere.

Circulars and Prices Upon Application

POWERS & POWERS
Station A LINCOLN, NEBR.

Marine Biological Laboratory

Woods Hole, Massachusetts

Biological Material

1. ZOOLOGY. Preserved material of all types of animals for class work and for the museum.
2. EMBRYOLOGY. Stages of some invertebrates, fishes (including Acanthias, Amia and Lepidosteus), Amphibia, and some mammals.
3. BOTANY. Preserved material of Algae, Fungi, Liverworts, and Mosses.

Price lists furnished on application to
GEORGE M. GRAY, Curator
Woods Hole, Mass.

Correspondence solicited on special orders, e.g., giving marine or aquatic material.

WANTED

Back Numbers of Transactions of the American Microscopical Society

Particularly desirous of securing the following:

Vol. 2 (Annual Meeting 3).

Vol. 6 (Annual Meeting 7).

Vol. 16, No. 2.

Vol. 39, No. 2.

Address correspondence to the
Secretary-Editor,

PAUL S. WELCH
Department of Zoology
University of Michigan
ANN ARBOR, MICH.

MICHIGAN BIOLOGICAL SUPPLY CO.

Preserved Material
Microscopic Slides
Lantern Slides
Glassware
Microscopes
Microtomes
Projection Apparatus
Field Glasses and Prism Binoc.
Laboratory Apparatus
Microtechnical Reagents
Charts

Our Products Are Guaranteed
Send for Our Catalogs



Pave the Way to Pleasant Teaching

When we send you **Biological Supplies** we try to fill your order with as much care as though we ourselves were to use the material.

We know that the class period is spoiled if the material is poor or if it does not arrive on time.

Your rush order leaves our stock room within twenty four hours and many cases is on its way within three or four hours after your letter or telegram reaches us.

Our Catalogs include **Apparatus, Preserved Material, Live Material, Life Histories, Lantern Slides, Stains and Chemicals, Microscope slides, Skeletons, Models, etc.**

We absolutely guarantee your satisfaction.

IF IT RELATES TO BIOLOGY CALL ON US

GENERAL BIOLOGICAL SUPPLY HOUSE

1177 E. 55th St., CHICAGO, ILL.

Members and Friends Will Find Our Advertisers Reliable

WARD'S NATURAL SCIENCE ESTABLISHMENT

84-102 COLLEGE AVE.,
ROCHESTER, N. Y.

Natural History Specimens of all kinds.

Sole American agents for the special microscopic preparations of Dr. Sigmund, which include Physiological Histology of Man and Mammalian Animals, 10 parts, 100 slides.

Comparative Histology of Vertebrate Animals, 5 parts, 50 slides.

Anatomy and Development of Phanerogams, 10 parts, 100 slides. Write for special circulars describing these preparations.

Free circulars in all departments: Biology, Entomology, Mineralogy, Geology, Paleontology and Taxidermy.

The Collegiate Press

Our specialization in college and university printing has equipped us to give our customers unexcelled service combined with best quality work at moderate prices.

We shall be glad to have members of the Society write at any time for quotations on material they wish to publish in book or pamphlet form, or for rates on accurate drawings or engravings of microscopic subjects.

Careful attention will likewise be given to requests for stationery and blank forms.

George Banta Publishing Company

Manufacturing Publishers

Menasha, Wis.

ANCO BIOLOGICAL SUPPLIES

Imported and Domestic
MICROSCOPIC SLIDES

For use in

**ANATOMY
BOTANY
EMBRYOLOGY
HISTOLOGY
NEUROLOGY
PATHOLOGY
ZOOLOGY**

Our Loose-leaf Catalogue
No. 21 Sent Upon Request.

**Quality
First**

**Prompt
Delivery**

THE ANGLERS CO.

913 W. Randolph St.
CHICAGO, ILL.

Comstock Publishing Company

ITHACA, N. Y.



OPTIC PROJECTION — Edition, 1917. Contains the old and also the new things in microscopy. S. H. Gage. Postpaid \$3.00.

OPTIC PROJECTION — Especially full on the projection microscope and drawing. S. H. and H. P. Gage. Postpaid \$5.00.

HANDBOOK OF MEDICAL ENTOMOLOGY—Wm. A. Riley and O. A. Johannsen. A practical account of poisonous, parasitic and disease-carrying insects and their allies, with identification tables. 348 pages. Illustrated, \$2.00.

High Grade Microscopical and Dissecting Instruments, Glassware and Preparations.

Biological and General Laboratory Supplies

Anatomical Models, Osteological Preparations, Museum and Naturalists' Supplies.

Write for Catalogues and Prices

The Kny-Scheerer Corporation of America

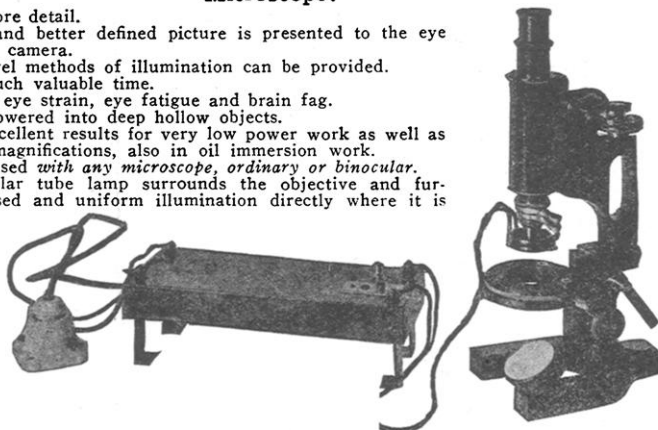
Department of Natural Science
G. LAGAI, PH. D.

56-58 W. 23rd Street
NEW YORK, N. Y.

THE SILVERMAN ILLUMINATOR

offers important advantages for practically every application of the
Microscope:

- a—It shows more detail.
 - b—A clearer and better defined picture is presented to the eye and the camera.
 - c—Several novel methods of illumination can be provided.
 - d—It saves much valuable time.
 - e—It prevents eye strain, eye fatigue and brain fag.
 - f—It can be lowered into deep hollow objects.
 - g—It gives excellent results for very low power work as well as higher magnifications, also in oil immersion work.
 - h—It can be used *with any microscope, ordinary or binocular.*
- A small circular tube lamp surrounds the objective and furnishes a diffused and uniform illumination directly where it is needed.



The Silverman Illuminator marks A GREAT ADVANCE in Microscope
Illumination

WRITE FOR BULLETIN 45-C

LUDWIG HOMMEL & CO.

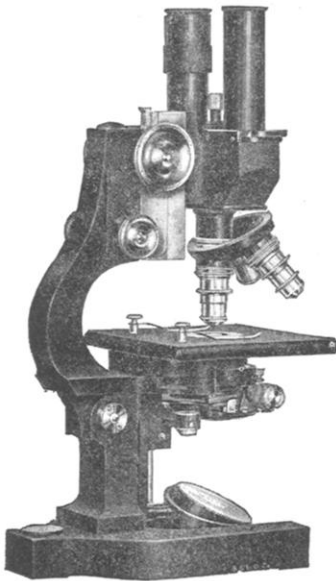
530-534 Fernando St.

Pittsburgh, Pa.

Members and Friends Will Find Our Advertisers Reliable

A Binocular Microscope *for Research Work*

Microscope CAE, binocular type, using Single Objectives for the full range of powers, is a most useful instrument for prolonged observation. It is used with great satisfaction by leading research workers. The following advantages are offered:



Microscope CAEs
Price \$240.00

As the eyepiece tubes are mounted in a parallel position, both eyes are used in the proper posture, eliminating eyestrain.

The user is given the impression of increased penetrating power, permitting him better to interpret what is seen.

It yields brilliancy of field and improved quality of image.

Provides maximum range for adjustment for interpupillary distance; left eyepiece is adjustable.

As the right eyepiece is rigid and vertical, the Camera Lucida may be used if desired.

Write for literature or information
on this, or other, Bausch & Lomb
Microscopes and Accessories

Bausch & Lomb Optical Co.

552 St. Paul St., Rochester, N. Y.

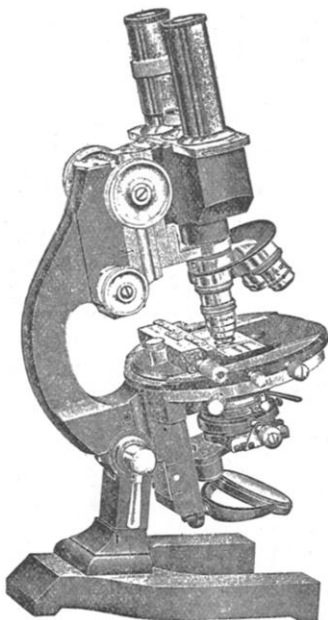
New York Chicago Washington San Francisco London

Makers of Photographic Lenses, Microscopes, Projection Apparatus (Balopticons), Ophthalmic Lenses and Instruments, Photomicrographic Apparatus, Range Finders and Gun Sights for Army and Navy, Searchlight Reflectors, Stereo-Prism Binoculars, Magnifiers and Other High-Grade Optical Products.

Members and Friends Will Find Our Advertisers Reliable

New Leitz Combination Microscope Stand "ABM"

The Latest Research Model for
Binocular and Monocular Vision



Microscope "ABM" with
Binocular Body Tube Attached

FEATURES:

1. In general design it is similar to our large Research Stand "AA."
2. Binocular—and Monocular Body Tubes can be very easily interchanged and attached by eccentrically acting lever-clamp.
3. The Nosepiece adapter is mounted independent of the tubes; objectives remain permanently centered, irrespective of which tube is used.
4. With the Binocular Body Tube attached the stand is in every respect equal to our "Mon-Objective Binocular" Microscope.
5. With the Monocular Body Tube attached it is identical with our Research Stand "AA," available for Micro-Photography.



Monocular Tube Interchangeable
with Binocular Body Tube

With this achievement **Leitz** has scored another success as originator of new microscope models of the "Leitz Quality of Optical and mechanical workmanship." "Leitz Quality" is beyond comparison, it is accepted as "Supreme."

Pamphlet No. D-1022 will
be forwarded upon request.



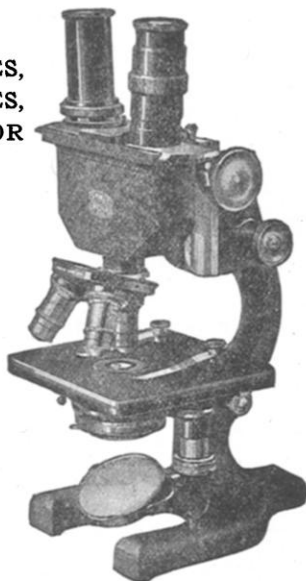
Members and Friends Will Find Our Advertisers Reliable

Spencer Scientific Instruments

whether

MICROSCOPES, MICROTOMES,
DELINEASCOPES, TELESCOPES,
PHOTO-MICROSCOPIC CAMERAS OR
OTHER APPARATUS,

MAKE
AN
INSTINCTIVE
APPEAL
TO THE
LABORATORY WORKER



It isn't only their accuracy and utility, it's something in the finish, even more in the design, but in addition to all these, it is those little things—clever little devices, which accomplish the same end, but in a better way—exactly the way that the laboratory worker wants them.

These are the distinctive features of Spencer instruments, made distinctive because our designers—experienced laboratory men, possess the laboratory view-point.

No. 3 H Mon-Objective Binocular

SPENCER MON-OBJECTIVE BINOCULAR MICROSCOPES

Possess all the features of construction which experience has shown to be meritorious and advantageous. Among them is one very distinctive feature which distinguishes the Spencer from all others, viz.:

CONVERGENT EYEPIECE TUBES

which avoids the excessive and false conception of perspective otherwise produced, giving a correct interpretation of the object under examination.

Send for Catalog

Spencer Lens Company



Buffalo, N. Y.

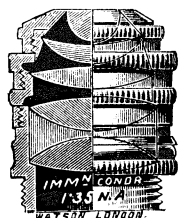


Members and Friends Will Find Our Advertisers Reliable

Watson's Apparatus for Microscopes

Watson's manufacture a series of Achromatic Objectives of high and low aperture, and of varying powers, enabling the maximum effect to be obtained with every description of Object Glass.

They correspond in correction and workmanship with Objectives of similar powers and apertures, and the high power Condensers can be made suitable for lower power Objectives by the removal of the top lens.



THE HOLOSCOPIC OIL IMMERSION CONDENSER. Power .22", numerical aperture 1.35, the whole of which is aplanatic if used on the thickness of slip for which it is corrected. The finest Condenser obtainable for high power work.

Optical part only, to fit the Royal Microscopical Society's Screw Thread, £9/12/6.

Particulars of the other Condensers of the Series are given below:

Condenser	Full Aperture	Aplanatic Aperture		Equivalent Focus		Diameter of Back Lens
		Complete	Top Lens Removed	Complete	Top Lens Removed	
Macro. Illuminator	—	—	—	Inch .2	Inch	1.25
Aplanatic Low Power	.50	.48	—	.66	—	.6
The Universal	1.0	.95	.40	.4	1.0	.77
Parachromatic	1.0	.90	.40	.29	.4	.62

WATSON'S HOLOS. IMMERSION PARABOLOID for the examination of Spirochetæ, and the exhibition of ultra-microscopic particles, is the best high power Dark Ground Illuminator.

Optical Part only. Price £3/11/6.

Particulars of all the above, and of Watson's Microscopes and Accessories of every description, are contained in their catalogue of Microscopes, which is published in 4 parts, as follows:

Part 1: Students' Instruments.

Part 2: Research and Other Microscopes, and appliances of every description.

Part 4: Instruments for Metallurgy, Petrology and Mineralogy.

Part 5: Photo-Micrographic Apparatus and Accessories. Sent post free on request to:

W. Watson & Sons, Limited

Established 1837

313, High Holborn, LONDON, ENGLAND

Attention of members of the
AMERICAN MICROSCOPICAL SOCIETY

is called to the announcement of Grants
from the Spencer-Tolles Research Fund.

(See *TRANSACTIONS*, July, 1913)

These awards are to stimulate and aid research in
Microscopic work

1. The Grantee must be a member of the Society.
2. Resulting discoveries must first be offered for publication in the Society Transactions.
3. Application should be made to Dr. Henry B. Ward, Chm., Urbana, Ill.

NOTICE TO MEMBERS

The Secretary-Editor desires to secure information concerning sets, partial sets, or odd volumes of the *TRANSACTIONS* which might be secured for the Society either by gift or purchase. Members knowing of such possibilities are earnestly requested to communicate with the Secretary. The earlier volumes are especially needed.

The Secretary will consider it a favor if members will notify him of non-receipt of numbers of the *TRANSACTIONS*, and of changes of address.

Correspondence relative to membership, publication, exchanges, advertising, etc., should be addressed to the Secretary-Editor.

PAUL S. WELCH,
Secretary-Editor.

*University of Michigan,
Ann Arbor, Michigan.*

INDEX TO ADVERTISEMENTS

American Microscopical Society, Ann Arbor, Mich.....	II
Anglers Co., Chicago, Ill.....	III
Bausch and Lomb Optical Co., Rochester, N. Y.....	V
Comstock Publishing Co., Ithaca, N. Y.....	III
General Biological Supply House, Chicago, Ill.....	II
George Banta Publishing Co., Menasha, Wis.....	III
Kny-Scheerer Corporation of America, New York.....	IV
Leitz, E., New York.....	VI
Ludwig Hommel & Co., Pittsburg, Pa.....	IV
Marine Biological Laboratory, Woods Hole, Mass.....	I
Michigan Biological Supply Co., Ann Arbor, Mich.....	II
Powers and Powers, Lincoln, Nebr.....	I
Southern Biological Supply Co., New Orleans, La.....	I
Spencer Lens Co., Buffalo, N. Y.....	VII
Sphung, A. A., North Judson, Ind.....	I
Ward's Natural Science Establ., Rochester, N. Y.....	III
Watson & Sons, London, Eng.....	VIII

Members should bear in mind that our advertisers make possible a larger magazine than could otherwise be issued. We owe them our patronage as well as our thanks.

Nowhere will you find more reliable dealers in materials for the laboratory than those advertised in this magazine.